weighed 0.08 to 0.12-Gm. sample of the product for assay. The sample is placed in the test-tube (B), 10.0 cc. of saturated ammonium sulphate solution are added and the procedure is carried out as in the case of the blank. In order to be certain that the equilibrium is reached at least an hour should be allowed to elapse after the evolution of gas is complete before the burette is read. The temperature, barometric pressure and differences in water level inside and outside of the burette are recorded, and the volume of gas reduced to standard conditions.

$$V = (V_1 - B)\left(\frac{P - P_{H_2O} - \frac{(L.D)}{(13.6)}}{76}\right)\left(\frac{273}{273 + Tc}\right)$$

V = Volume of nitrogen corrected to 0° C. 76.0 cm. V_1 = Volume of gas in burette, uncorrected. P = Barometric pressure (cm. Hg). P_{H_2O} = Tension of water vapor at Tc (cm. Hg). $L.\ D.$ = Level of water inside burette − level of water outside (cm.). Tc = Temperature Centigrade.

From Equation I it will be evident that 69.01 Gm. of sodium nitrite with an excess of ammonium sulphate will liberate 22,413 cc. of nitrogen, the gas corrected to standard conditions. Therefore, 1.0 cc. of nitrogen gas at 0° C., 76.0-cm. pressure, represents 0.003079 Gm. of sodium nitrite.

$$\text{Per cent sodium nitrite} = \frac{(V)\ (0.003079)}{\text{Weight of sample}}\ (100)$$

The method has been used by different analysts using sodium nitrite samples of known composition, and tablets from different sources. The results have been very satisfactory.

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CORROSION OF METALS BY LIQUID IODINE AND BY MOIST IODINE VAPOR.

BY B. L. MEREDITH AND W. G. CHRISTIANSEN.

As part of a study of the corrosive properties of iodine, several samples of chemically resistant metals have been exposed to the action of molten iodine at 130° C., and of moist iodine vapor at 65–70° C., and quantitative measurements have been made.

In the first experiment six glass-stoppered bottles were filled with resublimed iodine and placed in an oven at 130° C. Each strip of metal was thoroughly cleaned, weighed, measured and immersed in the molten iodine, one strip to a bottle. The stoppered bottles were than allowed to remain in the oven 48 hours. At the end of this time the strips were removed and plunged into alcohol which dissolved off the adhering iodine. The metallic iodides were then washed off with

water, except in the case of lead, where a strong KI solution was used, and the strips were given a final wash with alcohol before drying at 100° C., and reweighing.

In the second experiment the lower portion of an ordinary 8-inch desiccator was filled with resublimed iodine and two cc. of water added. A second set of clean, weighed metal strips were placed in the upper portion of the desiccator on a rack made of small glass rod. The cover was placed on the desiccator, which was then put in the steam closet at 65–70° C. for three days. The strips were then freed of iodine and iodides as in the first experiment and reweighed.

Following is a tabulation of the results:

TABLE I.—MOLTEN IODINE.

	Surface exposed, sq. cm.	Loss in Gm.	Loss in mg. per sq. cm.
Lead	35.1	6.1780	176.0
Carpenter steel	16.9	0.0078	0.46
Ascoloy	34.6	0.1650	4.77
Super ascoloy	26.6	0.0173	0.65
Allegheny metal	28.8	0.0429	1.49
Duriron	35.5	6.1651	173.7

TABLE II.—MOIST IODINE VAPOR.

	Surface exposed, sq. cm.	Loss in Gm.	Loss in mg. per sq. cm.
Lead	33.1	0.0224	0.68
Carpenter steel	17.0	0.2326	13.68
Ascoloy	33.9	0.4092	12.07
Super ascoloy	27.3	0.4385	16.07
Allegheny metal	32.4	0.5447	16.82
Resistol	220.3	2.687	12.20

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A METHOD FOR THE SEPARATION AND DETERMINATION OF TOTAL ALKALOIDS AND PHENOLPHTHALEIN IN PILLS.

BY R. L. TAYLOR.*

Place a number of pills equivalent to one grain of alkaloids in a lipped-centrifuge tube. Add 15 cc. of 2% sulphuric acid, and shake until the pills are completely disintegrated. Place the tube in the centrifuge and rotate about five minutes. Remove the tube and decant the clear liquid through filter paper.

Add 5 cc. of the 2% sulphuric acid to the tube and again shake until the residue is thoroughly disintegrated. Rotate the tube in the centrifuge and decant the liquid through the filter as before. Repeat this extraction several times, using 5-cc. portions of the dilute acid, until 2 or 3 cc. of the last portion of dilute acid gives a negative test for alkaloids with Mayer's reagent.

After the alkaloids have been completely extracted from the mixture, add about two Gm. of purified sawdust to the tube and mix well. Filter the contents of the tube through the filter, and rinse the tube with successive small portions of water, filtering the rinsings through the filter containing the residue. Dry the filter paper and residue in the oven at 60° C.

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